WE CLAIM:

1. A fuel processing system, comprising:

a vaporization region configured to receive at least a liquid component of a feed stream and to produce therefrom a vaporized component of the feed stream;

a treatment region configured to receive and remove solids from at least the vaporized component of the feed stream; and

a hydrogen-producing region in fluid communication with the treatment region and configured to receive the feed stream and to produce therefrom a mixed gas stream containing hydrogen gas and other gases.

2. The fuel processing system of claim 1, wherein at least a substantial portion of any solids in the feed stream are formed in the vaporization region.

3. The fuel processing system of claim 1, wherein the liquid component of the feed stream is at least substantially free of the solids before being vaporized to form the vaporized component of the feed stream.

4. The fuel processing system of claim 1, wherein the solids include at least one of colloidal silica and carbon-containing solids.

5. The fuel processing system of claim 1, wherein the treatment region includes at least one filter.

6. The fuel processing system of claim 5, wherein the at least one filter includes at least one sintered filter element.

7. The fuel processing system of claim 5, wherein the at least one filter includes an outside diameter and an inside diameter, and the at least one filter is configured to receive a flow of at least the vaporized component of the feed stream from the outside diameter to the inside diameter.

8. The fuel processing system of claim 1, wherein the liquid component of the feed stream includes water.

9. The fuel processing system of claim 1, wherein the liquid component of the feed stream includes a carbon-containing feedstock.

10. The fuel processing system of claim 1, wherein the liquid component of the feed stream consists essentially of water and a carbon-containing feedstock, and further wherein the hydrogen-producing region includes at least one reforming catalyst and is adapted to produce the mixed gas stream by a steam reforming process.

11. The fuel processing system of claim 1, wherein at least substantial portions of the vaporization region, the treatment region, and the hydrogen-producing region are enclosed in a common housing.

12. The fuel processing system of claim 11, wherein at least a portion of the treatment region is configured to be accessible from external the common housing without disassembling the common housing.

13. The fuel processing system of claim 12, wherein the common housing includes at least one portal configured to provide access to at least the portion of the treatment region from external the common housing.

14. The fuel processing system of claim 11, further comprising an insulated jacket that at least substantially encloses the common housing.

15. The fuel processing system of claim 1, wherein the vaporization region and the hydrogen-producing region are at least substantially enclosed in a common housing, and further wherein the treatment region is in fluid communication with the vaporization region and the hydrogen-producing region but positioned external the common housing.

16. The fuel processing system of claim 15, wherein the treatment region includes at least one filter.

17. The fuel processing system of claim 16, wherein the at least one filter includes an internal area, and at least a portion of the internal area is configured to be accessible from external the at least one filter without disassembling the at least one filter.

18. The fuel processing system of claim 17, wherein the at least one filter includes at least one portal configured to provide access to at least the portion of the internal area from external the at least one filter.

19. The fuel processing system of claim 15, wherein the treatment region is removably coupled to the common housing by a plurality of releasable fasteners configured to permit connection and reconnection of the treatment region relative to the common housing.

20. The fuel processing system of claim 15, further comprising an insulated jacket that at least substantially encloses the common housing and the treatment region.

21. The fuel processing system of claim 15, further comprising an insulated jacket that at least substantially encloses the common housing, and an insulated shroud that at least substantially encloses the treatment region.

22. The fuel processing system of claim 1, further comprising a separation region configured to receive the mixed gas stream and to produce therefrom a hydrogen-rich stream containing at least substantially pure hydrogen gas and a byproduct stream containing at least a substantial portion of the other gases.

23. A method for treating a vaporized feed stream component of a feed stream for a fuel processor adapted to produce hydrogen gas therefrom, the method comprising:

receiving at least a vaporized feed stream component of the feed stream into a treatment region;

removing solids from at least the vaporized feed stream component of the feed stream;

delivering the feed stream to a hydrogen-producing region of the fuel processor; and

producing a stream containing hydrogen gas from the feed stream.

24. The method of claim 23, wherein the method further includes receiving a liquid component of the feed stream and vaporizing the liquid component of the feed stream to form the vaporized feed stream component.

25. The method of claim 24, wherein the vaporized feed stream component includes a greater amount of solids than the liquid feed stream component.

26. The method of claim 24, wherein at least a substantial portion of any solids in the vaporized feed stream component are formed during the vaporization of the liquid component of the feed stream.

27. The method of claim 23, wherein the solids include at least one of colloidal silica and carbon-containing solids.

28. The method of claim 23, wherein the vaporized feed stream component includes water.

29. The method of claim 23, wherein the vaporized feed stream component includes at least one carbon-containing feedstock.

30. The method of claim 23, wherein the vaporized feed stream component consists essentially of water and at least one carbon-containing feedstock.

31. The method of claim 30, wherein the producing step includes producing a mixed gas stream containing hydrogen gas and other gases via a steam reforming reaction.

32. The method of claim 23, wherein the removing step includes passing the vaporized feed stream component through a filter assembly containing at least one filter adapted to remove solids from the vaporized feed stream component.

33. A fuel processing system, comprising:

a vaporization region configured to receive at least a liquid component of a feed stream and to produce therefrom a vaporized component of the feed stream;

means for removing solids that were produced in the vaporization region from at least the vaporized component of the feed stream; and

a hydrogen-producing region in fluid communication with the means for removing solids, wherein the hydrogen-producing region is configured to receive the feed stream and to produce therefrom a stream containing hydrogen gas produced from the feed stream.

34. The fuel processing system of claim 33, wherein at least a substantial portion of any solids in the feed stream are formed in the vaporization region.

35. The fuel processing system of claim 33, wherein the solids include at least one of colloidal silica and carbon-containing solids.

36. The fuel processing system of claim 33, wherein the liquid component of the feed stream is at least substantially free of the solids before being vaporized to form at least the vaporized component of the feed stream.

37. The fuel processing system of claim 33, wherein the liquid component of the feed stream includes water.

38. The fuel processing system of claim 33, wherein the liquid component of the feed stream includes a carbon-containing feedstock.

39. The fuel processing system of claim 33, wherein the feed stream consists essentially of water and a carbon-containing feedstock.

40. The fuel processing system of claim 39, wherein the hydrogen-producing region is a steam reforming region adapted to produce the stream containing hydrogen gas via a steam reforming reaction.

41. The fuel processing system of claim 33, further comprising at least one separation region adapted to increase the concentration of hydrogen gas in the stream containing hydrogen gas.

42. A fuel processing system, comprising:

a vaporization region configured to receive at least a liquid component of a feed stream and to produce therefrom a vaporized component;

a filter assembly comprising at least one filter configured to receive and remove solids from at least the vaporized component of the feed stream;

a reforming region in fluid communication with the filter assembly and configured to receive the feed stream and to produce therefrom a mixed gas stream containing hydrogen gas and other gases; and

a housing configured to at least substantially enclose at least the vaporization region and the reforming region, and further wherein at least a portion of the filter assembly is configured to be accessible from external the housing without disassembling the housing.

43. The fuel processing system of claim 42, wherein the feed stream includes water and a carbon-containing feedstock.

44. The fuel processing system of claim 43, wherein the solids include at least one of colloidal silica and carbon-containing solids.

45. The fuel processing system of claim 42, wherein at least a substantial portion of any solids in the feed stream are formed in the vaporization region.

46. The fuel processing system of claim 42, wherein the liquid component of the feed stream is at least substantially free of the solids before being vaporized to form at least the vaporized component of the feed stream.

47. The fuel processing system of claim 42, wherein the housing encloses the filter assembly.

48. The fuel processing system of claim 42, wherein the filter assembly is positioned external the housing but in fluid communication with the vaporization region and the hydrogen-producing region.

49. The fuel processing system of claim 42, further comprising a separation region configured to receive the mixed gas stream and to separate the mixed gas stream into a product hydrogen stream containing at least substantially pure hydrogen gas and a byproduct stream containing at least a substantial portion of the other gases.

50. The fuel processing system of claim 49, wherein the separation region includes at least one of a membrane module containing at least one hydrogen-selective membrane, a pressure swing adsorption assembly, and a methanation region containing a methanation catalyst.